Claims

1. A system for transmitting a clock signal through a packet-based network comprising:

a first node configured to measure a clock frequency of the clock signal and calculate an accuracy indicator of the measured clock frequency;

a second node configured to receive the clock frequency measurement and the accuracy indicator of the clock frequency measurement, and synthesize the clock signal therefrom; and

a packet-based network for transmitting the measured clock frequency and accuracy indicator from the first node to the second node.

2. A system for transmitting bit synchronous data through a packet-based network comprising:

a first node configured to receive the bit synchronous data for transmission through the network, the first node including measurement hardware for generating a clock frequency measurement of the bit synchronous data and an accuracy indicator, the clock frequency measurement and the accuracy indicator to be transmitted through the network; and,

a second node configured to receive the clock frequency measurement and accuracy indicator from the network, the second node including signal synthesizer hardware for synthesizing a clock signal from the clock frequency measurement and accuracy indicator for retrieving the bit synchronous data;

wherein the measurement hardware measures a number of counts during a predetermined period of time and the accuracy indicator is a period of time for measuring the number of counts.

3. A method for adaptive clocking in a packet-based network between a first node and a second node, comprising the steps of:

receiving a clock signal for transmission through the network at the first node;

measuring the clock signal to obtain a frequency measurement at the first node;

determining an accuracy indicator for the measured frequency measurement at the first node;

transmitting the frequency measurement and the accuracy indicator through the network from the first node to the second node;

receiving the frequency measurement and the accuracy indicator at the second node;

deriving a clock signal from the frequency measurement and the accuracy indicator at the second node; and

transmitting the derived signal from the second node to a user equipment connected to the second node.

4. In a packet-based network with a first transmitting node and a second receiving node, a method of determining a frequency of a transmitting clock at the second receiving node, said method comprising the steps of:

receiving a first plurality of packets;

determining a total time for transmission for each packet;

identifying a predetermined number of packets in the plurality of received packets that have the shortest total transmission times;

deriving the frequency of the transmitting clock by use of the identified predetermined number of packets.

5. The method of claim 4, wherein the derived frequency is used maintain buffer fill at the second receiving node.

6. The method of claim 4, additionally comprising the steps of:

identifying the packet in the first plurality of received packets that has the shortest total transmission time;

receiving a second plurality of packets;

determining a total time for transmission for each packet in the second plurality of packets;

identifying a predetermined number of packets in the second plurality of received packets that have the shortest total transmission times;

deriving the frequency of the transmitting clock through the identified predetermined number of packets in the second plurality of packets and the identified packet with the shortest total transmission time in the first plurality of packets.